

REMARKS

Claims 11-14 have been added. Claims 1-10 have been amended. Claims 1-14 are pending.

As discussed in a June 4, 2004 telephone conversation with Examiner, the Applicant notes that the Office Action Summary does not indicate the status of claims 8-10, which were added in a preliminary amendment. However, the body of the Office Action indicates rejection of those claims. The Examiner and the Applicant have agreed that the clerical error would be corrected, as necessary, in the next Patent Office response.

Title

The title of the Application has been amended, as described above, as required by the Examiner.

Drawings

Figures 6, 7A, 7B and 7C have been amended as required by the Examiner.

Claim Rejections – 35 U.S.C. 112

Claim 7 has been amended to clarify that the electrodes are separated from each other by the second substrate. The Applicant respectfully requests withdrawal of the 35 U.S.C. 112 rejection of claim 7.

Claim Rejections – 35 U.S.C. 103

Claims 1-5 and 8 were rejected as unpatentable over Araki et al. (Japan Patent No. 2001-85450). Claims 5, 6, 9 and 10 were rejected as unpatentable over Araki et al. in view of Ohmori et al. (US Patent No. 6,022,763). The Applicant respectfully traverses this rejection.

The Applicant submits that the Office Action misinterprets the Araki et al. reference and incorrectly applies the law to that reference. The case law recited in the Office Action is not applicable to the structure recited in claim 1 because the Araki et al. reference does not disclose

the claimed features in more or fewer elements. The Office Action asserts that the substrate 11 of Araki et al. corresponds to both the first substrate and the second substrate recited in claim 1 because the substrate of Araki et al. is a one piece element that has been merely divided into two pieces recited in claim 1. The Applicant respectfully disagrees.

Araki et al. discloses a first substrate 11 with a first main surface (top) on which is mounted a semiconductor element 12. A second main surface (bottom) of the first substrate 11 is located opposite the first main surface. Electrodes 15 are located on the second main surface (bottom). There is no disclosure of a second substrate that also is adhered to the second main surface (bottom) of the first substrate. That is, there is no second substrate adhered to the same surface on which the electrodes are located.

A second substrate adhered to the same surface on which the electrodes 15 are located would appear in at least one of FIGS. 1-7. That substrate would necessarily descend lower than the surface on which the electrodes are located. There is no way to divide the substrate 11 of Araki et al. into a first and second substrate such that the second substrate is adhered to the same surface of the first substrate on which the electrodes 15 are located and not have the second substrate descend lower therefrom.

In contrast, claim 1 recites that the electrodes (e.g., 50-53 in FIGS. 1B and 2B) are located on the second main surface (bottom) (e.g., 412 in FIGS. 1B and 2B) of the first substrate (e.g., 41 in FIGS. 1B and 2B). A second substrate (e.g., 48 in FIG. 2A) also is adhered to the same second main surface of the first substrate as the electrodes. Page 10 last par. continuing onto page 11. Thus, as an example, the second substrate 48 is shown in FIG. 2A as descending lower than first substrate second main surface 412, just as the electrodes 50-53 are shown descending lower from the same surface. The second substrate 48 is adhered to the surface 412 so that, at least, the electrodes 50-53 are exposed. Page 5, last 6 lines.

The Ohmori et al. reference does not add the missing element of Araki et al. In particular, Ohmori et al. also discloses electrodes for external connection 17 located on a second

main surface (bottom) of a substrate 18. There is no disclosure of a second substrate adhered to the same surface on which the electrodes are located. Col. 9, lines 39-51 and FIG. 2.

Neither Araki et al. nor Ohmori et al. recognize the advantages of forming a semiconductor device with a second substrate adhered to the same surface on which the electrodes for external connection are located. By positioning the second substrate 48 to separate the electrodes from one another, the second substrate can help avoid a short circuit, due to solder 58, between the electrodes 50-53 when the semiconductor device is mounted. Furthermore, second substrate 48 can be located at the center of the rear surface of the semiconductor device and, thereby, the solder used for mounting the semiconductor device to the substrate tends to shift to the outside. That is, the semiconductor device of the present invention has a structure wherein solder fillets can be exposed from the sides of the semiconductor device so that the mounted state of the solder can be observed by the naked eye after mounting. Page 18, first full par.

The Applicant respectfully requests withdrawal of the 35 U.S.C. 103 rejection of claim 1 because the cited references do not disclose each and every element recited in the claim.

Claims 2-11 depend directly or indirectly from claim 1 and should be allowable for at least the same reasons.

New Claims

Claim 11, dependent from claim 1, has been added. Claim 11 recites a feature deleted from claim 1. Claim 11 should be allowable for at least the same reasons as claim 1, discussed above.

Independent claim 12 and claims 13-14, dependent therefrom, have been added. Claim 12 recites the features that a second substrate is adhered to the same surface as the electrodes and that the electrodes are exposed.

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Conclusion

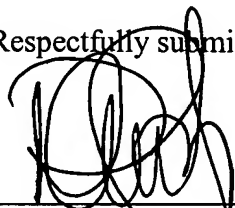
In view of the above discussion, the Applicant asserts that the pending claims are in condition of allowance.

The Applicant does not believe that any fees are due. However, please apply any charges or credits to deposit account 06-1050.

Date: _____

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Respectfully submitted,



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